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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,577	04/12/2004	Hideaki Shinmei	61148 (70904)	2632

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EXAMINER

BALAOING, ARIEL A

ART UNIT PAPER NUMBER

2617

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/822,577	<b>Applicant(s)</b> SHINMEI, HIDEAKI	
	<b>Examiner</b> Ariel Balaoing	<b>Art Unit</b> 2617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-20 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/06/2006 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed 09/06/2006 have been fully considered but they are not persuasive.

Regarding claim 1, the applicant argues "Callaway does not suggest using the transmitted power levels to calculate a difference of any kind. Rather, Callaway uses the transmitted power level simply to maintain power levels within a set tolerance" (see page 10 of the remarks); the examiner respectfully disagrees. Path loss calculation data for all paths of the piconet is provided to a master device (see col. 8, line 49-col. 9, line 15) to estimate a tomography of the system. As is known in the art, path loss is measured by a difference in the power of a transmitted signal and received signal. Also see newly submitted reference PERSSON et al (US 6,028,851) col. 7, line 4-10 regarding path loss calculation.

3. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Objections***

4. Claims 6, 7, and 20 are objected to because of the following informalities:

Claims 6, 7, and 20 are dependent on cancelled claim 3. Appropriate correction is required.

***Allowable Subject Matter***

5. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose the reception level acquisition means retrieve respective reception levels of wireless signals sent from the wireless communications apparatus to the at least one mobile terminals; and the transmission level acquisition means measures a transmission level of the wireless communication apparatus to the at least one mobile terminals.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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8. Claims 1, 4-9, 13, 14, 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over CALLAWAY, JR et al (US 6,745,038 B2) in view of PERSSON et al (US 6,028,851).

Regarding claim 1, CALLAWAY discloses a wireless communications apparatus comprising: reception level acquisition means for acquiring respective reception levels of wireless signals transmitted from at least one mobile terminals (abstract; column 5:line 44-53), wherein the reception level acquisition means measure the respective reception levels of the wireless signals (abstract; column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48); transmission level acquisition means for acquiring respective transmission levels of the mobile terminals (abstract; column 7:line 59-column 8:line 48; col. 8, line 58-col. 9, line 15), and the transmission level acquisition means retrieve respective transmission levels of the mobile terminals; difference value calculation means for calculating respective difference values between the transmission levels and the reception levels (abstract; column 7:line 59-column 8:line 48; col. 8, line 58-col. 9, line 15; path loss calculations); and relative distance estimation means for estimating a relative distance to the mobile terminal in accordance with the respective difference values (column 7:line 59-column 8:line 48; col. 8, line 58-col. 9, line 15; path loss calculations). However, CALLAWAY does not expressly disclose wherein the transmission levels are retrieved from the wireless signals transmitted to the apparatus. In the same field of the endeavor, PERSSON discloses where transmission levels are retrieved from the wireless signals transmitted to an apparatus (col. 7, line 4-10). There for it would have been obvious to a person of ordinary skill in the art at the time the

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invention was made to modify CALLAWAY to include transmission levels within a wireless signal, as taught by PERSSON, as embedding transmission levels is well known and convention in wireless communication systems.

Regarding claim 3, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses wherein: the reception level acquisition means measure the respective reception levels of the wireless signals (abstract; column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48); and the transmission level acquisition means retrieve respective transmission levels of the mobile terminals contained in the wireless signals (abstract; column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48).

Regarding claim 4, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level writing means for writing a transmission level of the wireless communications apparatus into a wireless signal to be transmitted to the mobile terminal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48).

Regarding claim 5, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses wherein: the transmission level writing means write an identification code of the wireless communications apparatus into the wireless signal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48; transmission levels gathered the master station are arranged to include slave id's from the wireless signal transmission).

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Regarding claim 6, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: reception level writing means for writing the reception level into a wireless signal to be transmitted to the mobile terminal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48; reception levels gathered at the master station are arranged to include slave id's from the wireless level transmission).

Regarding claim 7, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses wherein: the reception level writing means write an identification code of the wireless communications apparatus into the wireless signal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48; reception levels gathered at the master station are arranged to include slave id's from the wireless level transmission).

Regarding claim 8, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: reception level sorting means for sorting the reception levels acquired by the reception level acquisition means (column 4:lines 26-59; column 7:lines 59-48).

Regarding claim 9, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: difference value sorting means for sorting difference values calculated by the difference value calculation means (column 7:line 59-column 8:line 48; path loss calculations).

Regarding claim 13, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further

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comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as close mobile terminals, at least one mobile terminals providing a reception level greater than a predetermined threshold value among the reception levels acquired by the reception level acquisition means (column 7:line 23-41); and selection means for selecting, in accordance with the identification codes acquired for the close mobile terminals thus determined, mobile terminals having the identification code to be connected (column 7:line 23-41; identification codes for each device is inherently necessary to sort communication between devices).

Regarding claim 14, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); terminal determination means for determining at least one mobile terminals providing a transmission level greater than a predetermined threshold value among the transmission levels acquired by the transmission level acquisition means (column 7:line 23-41); and selection means for selecting, in

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accordance with the identification codes acquired for the mobile terminals thus determined, mobile terminals having the identification code to be connected (column 7:line 23-41; identification codes for each device is inherently necessary to sort communication between devices).

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level reduction means for reducing a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, shorter than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level raise means for raising a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, longer than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 18, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: writing control means for controlling the transmission level writing means to periodically write a transmission level into a wireless signal (column 7:lines 59-column 8:line 35).

Regarding claim 19, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising:

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writing control means for controlling the reception level writing means to periodically write a reception level into a wireless signal (column 7:lines 59-column 8:line 35).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses a wireless communications system, including a plurality of the wireless communications apparatuses according to any one of claims 1-9, 18, and 19.

9. Claims 10-12, 16, 17, 20 rejected under 35 U.S.C. 103(a) as being unpatentable over CALLAWAY, JR et al (US 6,745,038 B2) in view of PERSSON et al (US 6,028,851), and in further view of PALAMARA et al (US 5,963,866).

Regarding claim 10, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as a close mobile terminal, a mobile terminal providing a reception level among the reception levels acquired by the reception level acquisition means (column 6:line 15-26; column 7:line 59-column 35); and selection means for selecting, in accordance with the acquired identification code of the closest mobile terminal thus determined, only the mobile terminal having the identification code to be connected (column 7:line 23-41). However, the combination of CALLAWAY and PERSSON does not expressly disclose

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wherein the terminal determination means provides selection of the closest terminal based on a largest reception level. PALAMARA discloses wherein the terminal determination means provides selection of the closest terminal based on a largest reception level (column 5:line 60-column 7:line 19). Therefore it would have been obvious to a person of ordinary skill in the art to modify the combination of CALLAWAY and PERSSON in this way, as taught by PALAMARA, as both systems relate to mobile terminal positioning. This is beneficial in that stronger signal strength readings would occur between the devices provide there are no barriers between the devices.

Regarding claim 11, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); terminal determination means for determining a mobile terminal providing a transmission level among the transmission levels acquired by the transmission level acquisition means (column 6:line 15-26; column 7:line 59-column 35); and selection means for selecting, in accordance with the acquired identification code of the mobile terminal thus determined, only the mobile terminal having the identification code to be connected (column 7:line 23-41). However, the combination of CALLAWAY and PERSSON does not expressly disclose wherein the terminal determination means provides selection of the closest terminal based on a

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largest reception level. PALAMARA discloses wherein the terminal determination means provides selection of the closest terminal based on a largest reception level (column 5:line 60-column 7:line 19). Therefore it would have been obvious to a person of ordinary skill in the art to modify the combination of CALLAWAY and PERSSON in this way, as taught by PALAMARA, as both systems relate to mobile terminal positioning. This is beneficial in that stronger signal strength readings would occur between the devices provide there are no barriers between the devices.

Regarding claim 12, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as a close mobile terminal, a mobile terminal providing a smallest difference value among the difference values calculated by the difference value calculation means (column 7:line 59-column 8:line 48; path loss calculations); and selection means for selecting, in accordance with the acquired identification code of the closest mobile terminal thus determined, only the mobile terminal having the identification code to be connected (column 7:line 23-41). However, the combination of CALLAWAY and PERSSON does not expressly disclose wherein the terminal determination means provides selection of the closest terminal based on a largest reception level.

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PALAMARA discloses wherein the terminal determination means provides selection of the closest terminal based on a largest reception level (column 5:line 60-column 7:line 19). Therefore it would have been obvious to a person of ordinary skill in the art to modify the combination of CALLAWAY and PERSSON in this way, as taught by PALAMARA, as both systems relate to mobile terminal positioning. This is beneficial in that stronger signal strength readings would occur between the devices provide there are no barriers between the devices.

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level reduction means for reducing a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, shorter than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level raise means for raising a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, longer than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses a wireless

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communications system, including a plurality of the wireless communications apparatuses according to any one of claims 10-12.

10. Claims 15, 16, 17 rejected under 35 U.S.C. 103(a) as being unpatentable over CALLAWAY, JR et al (US 6,745,038 B2) in view of PERSSON et al (US 6,028,851).

Regarding claim 15, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as close mobile terminals (column 7:line 59-column 8:line 48); and selection means for selecting, in accordance with the identification codes acquired for the close mobile terminals thus determined, mobile terminals having the identification code to be connected (column 7:line 23-41). However, CALLAWAY does not expressly disclose at least one mobile terminal providing a difference value less than a predetermined threshold value among the difference values calculated by the difference value calculation means. CALLAWAY disclose wherein the RSSI is compared to a predetermined threshold value (column 7:line 23-41). CALLAWAY further discloses determining close terminals using a difference value calculation means (column 7:line 59-column 8:line 48; path loss calculations). Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify CALLAWAY to

provide at least one mobile terminal providing a difference value less than a predetermined threshold value among the difference values calculated by the difference value calculation means, as this value is directly proportional to the signal strength calculation disclosed.

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level reduction means for reducing a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, shorter than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level raise means for raising a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, longer than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ariel Balaoing whose telephone number is (571) 272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB

Ariel Balaoing – Art Unit 2617

AB 4/24/06



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